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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/840,462

04/24/2001

Yi Li

401184

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05/16/2006

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EXAMINER

SHARON, AYAL I

ART UNIT

PAPER NUMBER

2123

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/840,462

Applicant(s)

LI ET AL.

Examiner

Ayal I. Sharon

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/22/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Introduction

1. Claims 1-7 of U.S. Application 09/840,462 are pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/22/2006 has been entered.

Claim Objections

3. Claim 1 is objected to because of the following informalities: "*performance of the designs the articles of clothing*" should be "*performance of the designs [of] the articles of clothing*". Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The prior art used for these rejections is as follows:

a. Okabe , H. et al. "Three Dimensional Apparel CAD System". Proc. 19th Int'l Conf. on Comp. Graphics and Interactive Techniques. 1992. ("**Okabe**").

b. Li, Yi et al. "Integrated CAD for Functional Textiles and Apparel." Proc. of NOKOBETEF 6 and 1st Euro. Conf. on Protective Clothing. May 7-10, 2000. pp.8-11. ("**Li**"). Examiner notes that the authors of the Li reference form a different inventive entity than the inventors of the instant application.

6. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okabe in view of Li.

7. In regards to Claim 1, Okabe teaches the following limitations:

*1. (Currently Amended) A method of creating thermal functional designs of articles of clothing using a computer and a display monitor controlled by the computer, the method comprising.
with the aid of an apparel computer aided design function, entering designs of articles of clothing in a pattern database;*

Moreover, Okabe expressly teaches supplying the computer with information from databases relating to physiological characteristics of a human body and mechanical characteristics of respective textile materials for making the articles of clothing; with the computer and using the pattern database, simulating mechanical functional performance of the articles of clothing; and creating visual images displayed on the monitor visualizing mechanical functional performance of the designs the articles of clothing. (See Okabe, especially: Figures 1 and 2,

and associated text). However, Okabe does not expressly teach the following limitations:

supplying the computer with information from databases relating to thermal ... characteristics of a human body and thermal characteristics of respective textile materials for making the articles of clothing; with the computer and using the pattern database, simulating thermal functional performance of the articles of clothing; and creating visual images displayed on the monitor visualizing thermal functional performance of the designs the articles of clothing.

Li, on the other hand does expressly teach these limitations (See Li, especially: Figure 4, and associated text on p.10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Okabe with those of Li, because doing so would enable "demonstrate[ing] how ... different design of clothing will influence the thermal and mechanical comfort of the wearer." (See Li: p.11)

8. In regards to Claim 2, Okabe teaches the following limitations:

2. (Currently Amended) The method according to claim 1, in which the database of the physiological characteristics of a human body comprises human model data for specific body characteristics, including size and shape.

(See Okabe, especially: Figures 1 and 2, and associated text).

9. In regards to Claim 3, Li teaches the following limitations:

3. (Currently Amended) The method according to claim 1, in which the database of thermal characteristics of respective textile materials comprises product specification data.

(See Li, especially: Table 1)

10. In regards to Claim 4, Li teaches the following limitations:

4. (Currently Amended) The method according to claim 1, in which the database of thermal characteristics of the human body comprises thermal property data, including thermo-physiological and thermal comfort data of the human body.

Li teaches “demonstrate[ing] how ... different design of clothing will influence the thermal and mechanical comfort of the wearer.” (See Li: p.11). Li also teaches “visualize[ing] and characterize[ing] to show the dynamic temperature and moisture distribution profiles in [sic] human body...” (See Li: p.11). Li therefore teaches the storage of both types of data.

11. In regards to Claim 5, Li teaches the following limitations:

5. (Currently Amended) The method according to claim 1, in which the database of the thermal characteristics of textile materials comprises thermal property data, including data for fibres, yarns, fabrics, and garments.

(See Li, especially: Table 1)

12. In regards to Claim 6, Okabe teaches the following limitations:

*6. (Currently Amended) A method of creating thermal functional designs of articles of clothing, the method comprising:
extracting a pattern for an article of clothing from a pattern database ...
simulating fitting on the human body of the article of clothing made from the textile selected on the human body ...*

Moreover, Okabe expressly teaches supplying the computer with information from databases relating to physiological characteristics of a human body and mechanical characteristics of respective textile materials for making the articles of clothing; with the computer and using the pattern database, simulating mechanical functional performance of the articles of clothing; and creating visual images displayed on the monitor visualizing mechanical functional performance

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of the designs the articles of clothing. (See Okabe, especially: Figures 1 and 2, and associated text). However, Okabe does not expressly teach the following limitations:

*selecting thermal-physiological characteristics of the human body from a body database;
selecting thermal characteristics of a textile material from a textile database; and ...
and, using the thermal-physiological characteristics selected, displaying a visual image of thermal comfort of a human wearing the article of clothing made from the textile, visualizing thermal functional performance of the article of clothing.*

Li, on the other hand does expressly teach these limitations (See Li, especially: Figure 4, Table 1, and associated text on p.10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Okabe with those of Li, because doing so would enable "demonstrate[ing] how ... different design of clothing will influence the thermal and mechanical comfort of the wearer." (See Li: p.11)

13. In regards to Claim 7, Li teaches the following limitations:

7. (Previously Presented) The method according to claim 6 wherein the textile database includes thermal property data for textile fibers, yarns, and fabrics.

(See Li, especially: Table 1)

Response to Amendment

Re: Double Patenting

14. In light of Applicants' recent amendments to the claims, the obviousness-type double patenting rejections have been withdrawn.

Re: Claim Rejections - 35 USC § 103

15. Examiner has found Applicants' arguments regarding the Huizenga references to be persuasive. Therefore, the rejections based on these references have been withdrawn.
16. New rejections have been applied.

Conclusion

17. The following prior art, made of record and not relied upon, is considered pertinent to applicant's disclosure.
18. R.L. Barker et al. "Transport Phenomena In Comfortable Passive and Active Barrier Textile Systems Code." National Textile Center Annual Report. August 1995. <http://www.p2pays.org/ref/08/07018.pdf>. (Teaches evaluating garments for physiological criteria. See p.294, "Garment Testing").
19. H. Hamouda et al. "Modeling of Thermal Protection Outfits for Fire Exposure." National Textile Center Annual Report. Nov. 2001. NTC Project I10-S02. <http://www.ntcresearch.org/pdf-rpts/AnPp01/I01-S02-A1.pdf>. (Post-dates instant application. Shows state of the art).
20. P. Bajaj et al. Protective Clothing. 1992. Abstract Only. <http://www.library.tuiasi.ro/ipm/vol13no34/textile.html> (Mentions thermal characteristics and combustion mechanisms of clothing fibers).

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Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ayal I. Sharon whose telephone number is (571) 272-3714. The examiner can normally be reached on Monday through Thursday, and the first Friday of a biweek, 8:30 am – 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached at (571) 272-3753.

Any response to this office action should be faxed to (703) 872-9306, or mailed to:


USPTO
P.O. Box 1450
Alexandria, VA 22313-1450

or hand carried to:

USPTO
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center 2100 Receptionist, whose telephone number is (571) 272-2100.

Ayal I. Sharon
Art Unit 2123
May 5, 2006


Paul L. Rodriguez 5/11/06
Primary Examiner
Art Unit 2125-2123